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ABSTRACT

This report presents a summary of the linguistic research conducted at the Kamehameha Early Education Program (KEEP) during its first five years of operation, as well as a description of relevant linguistic theories. The subjects of the research are the students in the KEEP elementary school (K-3) who were tested twice a year during the five-year period. Two main lines of research are discussed: (1) the development of instruments to measure competence in Standard English (the SERT) and Hawaiian Creole English (the HCERT), and (2) studies of the acquisition and use of specific Standard English (SE) features by Creole-speaking children. The instruments discussed in the first section are described in detail: the technique of elicited information, development of the test items, administration and scoring procedures, and analysis of the results. The studies discussed in the second section were aimed at determining the normative pattern of acquisition of SE features and exploring the effects of various instructional approaches on SE feature acquisition. In this section there is also discussion of studies done with a few supposedly non-verbal children. Conclusions are drawn which deal with the correlation between improvement in Standard English, Creole English, and general language facility and educational development. (Author/AMH)

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Technical Report #59

Studies of Standard English and Hawaiian Islands Creole English: KEEP Linguistic Research, 1971-1976

Ronald Gallimore Roland G. Tharp

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The Kamehameha Early Education Program

The Kamehameha Early Education Program (KEEP) is a research and development program of The Kamehameha Schools/Bernice P. Bishop Estate. The mission of KEEP is the development, demonstration, and dissemination of methods for improving the education of Hawaiian and Part-Hawaiian children. These activities are conducted at the Ka Na'i Pono Research and Demonstration School, and in public classrooms in cooperation with the State Department of Education. KEEP projects and activities involve many aspects of the educational process, including teacher training, curriculum development, and child motivation, language, and cognition. More detailed descriptions of KEEP's history and operations are presented in Technical Reports #1-4.

Abstract

This report presents a summary of the linguistic research conducted at KEEP during the first five years of operation, as well as a description of relevant linguistic theories. Two main lines of research are discussed: 1) the development of instruments to measure competence in Standard English (the SERT) and Hawaiian Creole English (the HCERT), and 2) studies of the acquisition and use of specific Standard English features by Creole-speaking children. It is concluded that general language facility is more crucial to achievement than use of a specific language code. Implications for classroom instruction and future research are presented.

Technical Report #59

Studies of Standard English and Hawaiian Islands Creole

English: KEEP Linguistic Research, 1971-1976

Ronald Gallimore Roland G. Tharp

It is widely believed in Hawaii, by professionals and laymen alike, that linguistic factors are involved in the mutual difficulties of Hawaiian children and Hawaii schools. The form and extent of this involvement have been a matter of continuing debate. This dialogue has been influenced by U.S. Mainland opinion trends. During one stage, public policy was committed to "stamping out" pidgin (or broken English, as it is still sometimes described). More recently, the concepts of cultural difference and linguistic relativism have led many Island educators to an opposite conclusion.

When KEEP began operations in 1971, the tide of opinion in Hawaii had begun to swing toward a more tolerant, and often supportive view of pidgin. Among other efforts, the State had experimented with teaching English as a second language, on the assumption that pidgin (Hawaiian Islands Creole)* should be treated as a separate and, for many, a first language (Day, 1973a). However salutory this development, there remained a fundamental lack of knowledge about the specific relationship of pidgin to school problems. As far as we have been able to determine, prior to 1971 there was no empirical demonstration that pidgin-speaking children were more likely to fail in school. More importantly, there was little but speculation and personal experiences on which to base a specific statement of pidgin interference. Was it the case that use of

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*Abbreviated to Hawaiian Creole English (HCE)

pidgin in general affected school learning? Or was it that specific skills, (for example, learning symbol-sound relationships in beginning reading) were more difficult to learn without standard English competence?

To contribute to the search for specific forms of language interference, from the beginning KEEP included a linguistic research component. To date, two major lines of research have been pursued. The first was the development of reliable and valid measures of standard English (SE) and Hawaiian Creole English (HCE) performance. With such measures available we could examine the relationship of language to school learning and achievement; test for change over time; and conduct comparison studies. Second, we carried out a series of observational and experimental studies of a specific standard English feature, in order to determine whether and how it was used and learned by HCE-speaking children.

The bulk of this paper reviews these two lines of research. However, we first present an overview of a wider literature.

Language, Culture, and Schools

In the Sixties, the role of nonstandard dialects in minority school achievement problems received great attention. The argument was generally organized in terms of the language deficit versus the language difference view. In most cases and arenas, difference proponents seem to have won, although looking back from the perspective of 1975, it is not clear that they presented convincing evidence that use of a nonstandard dialect was a factor of importance (Somervill, 1975). Mostly, the difference theorists relied upon examples to refute the notion that minority children -- Blacks were usually the focus -- were nonverbal or language deficient (e.g., Labov, 1970); rather, Blacks spoke a nonstandard dialect that was misunderstood by teachers, testers, and majority culture members in general. Nonstandard dialects became the vehicle by which the concept

of linguistic relativity was introduced into education (c.f. Baratz and Baratz, 1970; Valentine, 1971).

The dialect-related educational problems of minority children seemed for a time to be on the verge of explanation, at least in theoretical terms. Afro-Americans and other minorities were members of cultures that were different from the majority, and they spoke their own coherent, functional languages. In Hawaii, a similar argument was made in the case of Hawaiian-Americans (Gallimore and Howard, 1968).

Two strategies for solution began to emerge, one more radical than the other. The moderate solution involved sensitizing educators to cultural and dialect differences, introducing dialect and culture-relevant curricula, teaching English as a second language, and searching for specific forms of dialect interference. The call for more radical action included dialect readers, culture-community control, culture-member and dialect-speaking teachers, and the like. These hypotheses of the Sixties and early Seventies have sometimes been altered or rejected by subsequent research. The process of testing the ideas of the difference theorists continues, but enough evidence is now available to suggest that specifying the role of minority culture and nonstandard dialects in the educational process is more difficult than it once seemed. Solution development has been consequently delayed.

I. Development of Instruments to Measure Linguistic Performance

From Pidgin to Creole

In Hawaii there is a nonprestigious form of communication popularly called Pidgin. It is usually, though not always, associated with members of cultural groups of middle to low socioeconomic status. However, the term Pidgin is linguistically incorrect, and much of local speech in Hawaii is better described as part of a creole speech continuum (Reinecke 1933, 1969; Reinecke and

Tokimasa, 1934; Day, 1973b). A creole is a native language system formed as a result of two or more languages being in contact through the vehicle of a pidgin. A pidgin is a highly functional, concrete communication system that is derived when two or more languages come into initial contact; in Hawaii the existing creole continuum began as a pidgin when Hawaiian (Polynesian), English, Japanese, Chinese, Korean, Filipino, and Portuguese, among other languages, came in contact in less than 75 years.

DeCamp (1971) first formulated the concept of a creole speech continuum, but referred to it as a post-creole speech continuum, since he felt that the creole would no longer be in existence when decreolization began -- that is, it would begin to change toward the dominant language system. Bickerton (1973) observes that the use of the term "post" can be misleading since that variety which is the greatest distance, linguistically, from the standard language may be no different from the original creole language.

A creole speech continuum is composed of a number of linguistic varieties or systems; these may range from being very distinct from the socially dominant standard language to being very similar to it. The standard language acts as the model for decreolization because of various social phenomena which are beyond present concerns. "Standard" is used here as a relative term. A linguistic system's status is, of course, determined by a variety of sociological variables.

HCE began to decreolize under the influence of varieties of standard English from the United States mainland. For ease of reference, the term Hawaiian Creole English is used when referring to this creole speech continuum, recognizing that it is only a cover term for a number of varieties of speech.

Although HCE continues to be used by persons at many social levels, inability in SE is widely regarded as a principal factor in academic

underachievement of Hawaiian-American (Polynesian descent) and other Island children.

Before any research around these assumptions could be undertaken, it was necessary to have a method for measuring the linguistic abilities of Hawaiian children. Strange as it seems, there existed no means of measuring the linguistic competence or performance of children in standard English, much less in HCE. Our major initial effort, therefore, was directed toward the creation of a reliable, valid measuring instrument.

The Standard English Repetition Test

The Technique of Elicited Imitation: Theoretical Considerations

The Standard English Repetition Test (SERT) uses the technique of controlled, elicited imitation; that is, the child is instructed to repeat standard English sentences which the examiner says to him. This simple, economical method is based on the assumption that a child who understands a sentence, and/or who is familiar with its syntax, phonology, and vocabulary, will be more likely to repeat the sentence accurately than one who is not. Slobin and Welsh (1973) argued that a child must comprehend the meaning of the sentence to produce an exact repetition. If he fails to understand the semantic message or if he does not understand the syntactic constructions used in the sentence, he will not repeat the sentence accurately.

Labov (Labov, Cohen, Robins, and Lewis, 1968) used repetition tests with speakers of Black Vernacular English in Harlem to gain additional insights into their linguistic competence. Labov claimed that "repetition tests have a place in a school testing program, and that they will yield a great deal of data which has never been tapped before" (Labov et al., 1968, p.310). Labov discovered that the areas in which his subjects had the greatest difficulty repeating SE sentences were those parts of SE grammar which were the most different from Black

Vernacular English. Sentences which were much longer but contained fewer syntactic differences presented less difficulty. Thus, Labov concluded that the "limited effect of length confirms the impression that we are dealing with problems of grammatical processing, not simple additive effects of memory" (Labov et al., 1968, p.315).

Repetition techniques have been used to test linguistic competence by Baratz (1969), Rohwer and Ammon (1971), and by Heber, Garber, Harrington, Hoffman, and Falender (1972). In addition, Politzer, Hoover, and Brown (1974) have used a sentence repetition test to measure the language ability of children in Black English, both standard and nonstandard. Though we were unaware of the work of Rohwer and Ammon, Heber et al., and Politzer et al. until our work was in progress, there is a clear similarity between our arguments for repetition techniques, as well as between the instruments themselves. However, none reports test-retest or form-form reliability data, or validity measures. Rohwer and Ammon center their report on the use of elicited imitation for the study of individual syntactic constructions. Heber et al. developed a repetition test to evaluate differential rates of linguistic improvement between an experimental and a control group of children at risk for mental retardation. The purpose of the present instrument, on the other hand, is to calibrate the standard English performance of HCE-speaking children.

As used in the SERT, elicited imitation may either overestimate or underestimate performance in standard English, since a variety of variables in addition to comprehension are related to the probability of accurate repetition. For instance, the length of the sentence, the difficulty, the meaningfulness, and the serial position of the words (as well as the short-term memory capacity of the child) are all factors that influence which words and how many will be repeated accurately (Jung, 1968).

Slobin and Welsh describe two factors that may underestimate a child's performance level. In their work with a two-year-old girl, they discovered that she was unable to repeat successfully sentences which she had spontaneously produced earlier. They claimed this had to do with the child's intention. The child intended to say something, and put that intention into linguistic form. Once the original intention is gone, "the task can strain the child's abilities, and reveal a more limited competence than may actually be present in spontaneous speech. Thus, whatever we discover in systematic problems of imitation must be taken as a conservative estimate of the child's linguistic competence." (Slobin and Welsh, 1973).

Alternatively the child may comprehend the meaning of the sentence but not repeat it exactly as given. He might fill in the underlying semantic-syntactic frame with lexical terms which carry an exact or similar meaning. Slobin and Welsh observed this word-substitution yet meaning-preserving behavior, and noted it as an example of what they called assimilatory deformation or recoding in short-term memory (1973).

A similar process may occur when using elicited imitation with speakers of nonstandard varieties. Such subjects may comprehend the meaning of the sentence but will repeat it back in the nonstandard code. This substituting of the nonstandard for the standard was observed by both Baratz (1969) and Labov (Labov et al., 1968) in a study of substitutions made by Afro-American children asked to repeat SE sentences. Important information about the relationship between the standard and nonstandard codes can be obtained from such substitutions.

Alternatives to elicited imitation were considered in preliminary research planning. One possibility dealt with obtaining samples of speech from the subjects in a wide variety of circumstances, thereby yielding a large amount of

data indicative of each child's performance. There are many drawbacks to such an approach, the most obvious ones being that there is no way to control the language code (standard or nonstandard) used by the subjects, and the cumbersome scoring and interpreting of such data. Other alternatives focused on using existing test instruments, such as the Illinois Test of Psycholinguistic Abilities; this, however, required a long, difficult individual administration generally used only to assess speech deficits in a clinical setting.

Development of the SERT Items

Sentences to be used as SERT items were adapted from tape recordings of the natural speech of HCE-speaking children, ranging from age five to 14. The recordings had been made by various persons, including mothers of the children and researchers, and in a variety of settings--from a school to the home. Each sentence in an initial pool of 75 items included at least one grammatical feature which had been observed to vary. Sentences with features of varying frequency of occurrence, both within and across age groups, were selected on the basis of appropriacy for lower elementary-aged children. Subsequently, the number of items was reduced by discarding those with redundant features; sufficient ceiling was provided by including features which were only infrequently used by younger children but which were used by older ones.

The final version of the SERT consists of two forms, each having 15 sentences with 29 features. The two forms differ in vocabulary but not in grammatical structure. The 29 features test the following constructions: past tense, present tense, copula, negation, yes-no question formation, passive, indefinite article, indirect question formation, and pro-nominalization. There is a reasonable degree of consensus among linguists that the selected features properly reflect major points of difference between SE and HCE.

Details on reliability and validity studies of the SERT are provided by

Day, Boggs, Gallimore, Tharp, and Speidel (see Technical Report #15). In brief, satisfactory indices of reliability were obtained from the following methods: internal consistency, test-retest, and equivalent form correlations. Validity of the SERT was established by examining its relationship to the Illinois Test of Psycholinguistic Ability, comparing scores of HCE speakers to those of SE speakers, and improvement in SERT performance by age.

Administration and Scoring

The test is administered on an individual basis, and tape recorded. Scoring for the SERT is done by assigning responses to one of four categories:

(1) exact SE--exact repetition of the SE feature. For example: Examiner: I'm not sure where the teacher is. Subject: I'm not sure where the teacher is. The two underlined instances of the copula are the SE features being tested in this sentence.

(2) other SE--a correct SE repetition but not an exact repetition. The meaning of the sentence is maintained, even though the feature was not repeated in exactly the same form. Subject: I am not sure where the teacher is. In this example, there is repetition of the second copula, is, exactly as given, but the first is changed from a contraction, 'm, to a full form, am. This changing the contracted form to the full form would be scored as "other SE."

(3) HCE--a transformation of the SE feature. This example illustrates transformation of an SE feature into an HCE one, while maintaining the meaning of the sentence. Subject: I not sure where the teacher stay. In this example, the subject has repeated the sentence using two HCE features, zero copula and stay, for the two SE features, 'm and is, respectively.

(4) a bust. The subject fails to repeat the feature, gives an inaudible or unintelligible response, or changes the meaning of the sentence by his repetition. Subject: I know where the teacher was. This example illustrates two

busts. The first feature is a bust because of know, which is neither a form of the copula nor a negative construction. The second bust, was, is a form of the copula but the tense has been changed from present to past, which changes the meaning of the sentence; thus it must be scored as a bust.

To obtain a child's performance on the SERT, his replies are totaled in each of the four categories. Since there are 29 features, a subject could possibly score 29 for the first category--exact SE. However, to date no HCE-speaking kindergarten child has repeated exactly all the features in SE.

KEEP SERT Results

To date, over two dozen administrations of the SERT have been completed. At KEEP we have tested all classes Fall and Spring during the kindergarten year; Class I (the first to enroll at KEEP) has been tested twice in each of the kindergarten, first, and second grade years, and comparison samples in Hawaii and the Mainland have been collected.

Table 1 presents the SERT results for the repeated testings of Class I. These data are the most extensive longitudinal results currently available. They show a clear and steady increase in the number of exact SE responses. Other SE remains a trace response throughout; HCE transforms steadily decline, while busts decline after the initial testing and then remain a steady factor. These results are duplicated for Classes II and III, for their kindergarten years.

The combined kindergarten test data are presented in Table 2. The means reflect the scores obtained by every child who enrolled and remained at KEEP throughout the kindergarten year (Classes I, II, and III). The major difference from the Class I data is that the increase in exact SE from Fall to Spring is almost entirely due to a reduction in the number of busts.

Table 1

Mean SERT scores for Class I: Kindergarten to Second

	Exact SE	Other SE	HCE Transform	Bust
Kindergarten	(N=28)			
Fall 72	9.18	2.36	10.04	7.43
	(5.72)	(1.97)	(4.47)	(4.08)
Spring 73	13.61	2.57	8.89	3.93
	(6.62)	(1.58)	(4.83)	(4.55)
First Grade	(N=28)			
Fall 73	14.75	2.46	7.39	4.25
	(6.56)	(1.69)	(4.59)	(4.73)
Spring 74	16.14	2.07	7.14	3.64
	(6.58)	(1.78)	(5.21)	(3.66)
Second Grade	(N=26)			
Fall 74	17.42	1.88	5.88	3.81
	(5.77)	(1.53)	(3.42)	(3.58)
Spring 75	18.54	1.63	4.42	4.33
	(6.50)	(1.61)	(4.25)	(3.61)

Table 2

Mean Kindergarten SERT Scores for Classes I, II, and III

	Exact SE	Other SE	HCE Transform	Bust
Fall - Kindergarten	9.69	1.78	7.34	9.82
(N=82)	(6.54)	(2.59)	(4.56)	(7.46)
Spring - Kindergarten	13.11	1.84	7.16	6.76
(N=83)	(6.77)	(1.49)	(4.23)	(5.61)

Table 3 presents the percent of response by SERT scoring category for Class I, kindergarten through second grade. These figures show somewhat more clearly the relationship among changes in frequencies of the various response categories. It appears the children first become better at doing the task (reduction in busts) and then begin to give exact SE responses rather than HCE transforms. If the basic assumption of elicited imitation is correct, these data suggest that the children are becoming more proficient in SE.

Table 4 presents a fine grained analysis of shifts in response categories from Fall to Spring for three classes of kindergarten children. In the Fall, 626 HCE transforms were given; by Spring only 280 (44.7 percent) of those same items were scored as transforms. Most of the rest were scored as exact SE. Table 4 also presents changes from Fall to Spring for responses scored as busts in the Fall. In this case the largest number of items were still scored as busts in the Spring (43.5 percent). The rest were evenly divided between HCE transforms and exact SE. These data are important for the information they

Table 3

Percent of Responses to SERT by Category of Response for KEEP Class I: Kindergarten to Second Grade

	1972-1973		1973-1974		1974-1975	
	Fall	Spring	Fall	Spring	Fall	Spring
Exact Repetition	32	47	51	56	60	64
Other Standard English	8	9	9	7	6	6
Hawaiian Creole Trans.	35	31	26	25	20	15
Busts	26	14	15	13	13	15
	101	100	101	100	99	100

Table 4

Spring Responses to SERT Items Scored in Fall as HCE Transforms and Busts: Kindergarten Data for Classes I, II, and III Combined

	Spring Response			
Total Transforms in Fall	Exact SE	Other SE	HCE	Bust
626	35.6% (229)*	5.2 (33)	44.7 (280)	13.4 (84)
Total Busts in Fall				
866	26.8 (232)	5.5 (48)	24.1 (209)	43.5 (377)

*number of responses in parentheses

provide on language development and dialect shifting. First, they show that the HCE transform category remains surprisingly stable over time--44.7 of the items transformed in Fall, are also transformed in Spring. They also show there is no progression from bust to transform to exact SE; if there were, we would expect

that items busted in Fall might be more likely to be transforms rather than exact SEs in the Spring. Instead Fall busts are most likely to be Spring busts (a function of item difficulty), but no more likely to be transforms than exact SEs.

Table 5 presents the correlations of SEKT scores with all other scoring categories for two years of test results. Looking first at the exact SE, it is clear that the changes in mean score reflected in Table 1 do not implicate the relative ranking of individual children. The correlations over two years--four testings--range from .88 to .94; the exact SE score is thus stable across individuals, in spite of the progressive increase in mean group score. HCE transforms and busts are negatively related to exact SE. The latter is an artifact of the scoring system and the fixed number of items. There is a general positive correlation of exact and other SE.

SERT Comparison Data

The SERT was administered to kindergarten and first grade classes in five schools in Hawaii. These schools are located in districts in which mainly HCE is spoken: There were two urban, two suburban, and one rural school. Within each school the scores of the first grade children were significantly higher than the kindergarten children (see Table 6).

Table 7 presents a comparison of SERT scores obtained from a KEEP kindergarten class and a kindergarten class of SE-speaking children from a school in the Western U.S. As might be expected, the SE speakers score substantially higher than the KEEP children. Two additional points can be made, however, that bear upon the question of general language facility. First, a sample of HCE-speaking fourth graders score nearly as well (mean=22.00) as the SE kindergarten speakers (see Table 7).

Table 5

Correlation SERT Scores with all Scoring Categories
(Fall & Spring, 1972-73, 73-74)[1]

	Exact SE			
	Fall-72	Spring-73	Fall-73	Spring-74
K				
SE Fall-72	----	.92**	.88**	.89**
SE Spring-73	.92**	----	.94**	.92**
1				
SE Fall-73	.88**	.94**	----	.90**
SE Spring-74	.89**	.92**	.90**	----
K				
Other SE Fall-72	.15	.27	.25	.28
Other SE Spring-73	.11	-.01	.04	.11
1				
Other SE Fall-73	.41*	.41*	.44*(28)	.43*(28)
Other SE Spring-74	-.21	-.14	-.07(28)	-.05(28)
K				
HCE Fall-72	-.79**	-.62**	-.54**	-.60**
HCE Spring-73	-.80**	-.78**	-.74**	-.79**
1				
HCE Fall-73	-.82**	-.76**	-.78**(28)	-.77**(28)
HCE Spring-74	-.72**	-.65**	-.67**(28)	-.84**(28)
K				
Busts Fall-72	-.62**	-.75**	-.77**	-.73**
Busts Spring-73	-.51**	-.66**	-.62**	-.57**
1				
Busts Fall-73	-.56**	-.70**	-.72**(28)	-.61**(28)
Busts Spring-74	-.51**	-.65**	-.64**(28)	-.58**(28)

* $p < .05$
** $p < .01$
1 N=24 unless otherwise noted: Class I (Spring 74 population)

Table 6

Means and t-comparisons on SE Performance for Kindergarten and First Grade HCE-Speaking Children in Five Schools in Hawaii

School Area	Kindergarten		First Grade		t
	N	Mean	N	Mean	
Suburban 1	20	10.7[illegible]	23	12.87	1.33
Suburban 2	23	9.[illegible]	21	12.42	1.96*
Rural	14	6.78	11	11.27	3.25**
Urban 1	17	7.82	21	8.00	.11
Urban 2	28	9.18	26	14.23	2.97**

**$p < .05$
* $p < .10$

Table 7

Means, Standard Deviations and t-comparison of ES Performance for a Group of SE-Speaking Kindergarten Children in the Western States and a Group of HCE-Speaking Kindergarten Children in Hawaii

Primary Language	N	Mean	Standard Deviation	t
SE Speakers	30	23.89	3.60	11.74*
HCE Speakers	28	9.18	5.61	

*$p < .002$

Second, if we add to the SERT score of the HCE-speaking kindergarteners their other SE and HCE transform scores, their total appropriate response is 21.58--again nearly as good as the SE speakers score of 23.89. This indicates that the SERT measures linguistic, not comprehension, differences. Total Appropriate score assesses the degree to which the child managed the SERT items as a comprehension/communication task. A response might not be an exact repetition of the formal structure, but it might be an appropriate rendering by the child of the meaning of the SERT item. Thus, at age five, HCE-speaking children comprehend SE better than they can speak it.

Comparison of Specific SERT Items

There is little difference in the sentences that SE and HCE speakers find difficult. The rank order correlation of sentence difficulty for SE and HCE speakers (see Table 8) is rho=.731. In short, although there is vast difference in mean score, the relative difficulty of the various items is virtually the same. There are some interesting departures, however. Sentence 13 tests the simple past tense. This sentence was repeated accurately by 83.3% of the SE-speaking children, and by only 20.8% of the HCE-speaking children. For the former, the sentence was ranked eighth, along with two others, in degree of difficulty; the HCE-speaking subjects ranked it as the second hardest sentence. The sentence is not long, and tests only one feature. What makes it difficult for the HCE-speaker is the past tense morpheme /-ed/. In HCE, past tense is not formed by the addition of this morpheme to the simple form of the verb, but by preposing the past tense marker wen to the simple form of the verb. Thus the HCE-speaking child would say My mommy wen call up my auntie last night instead of the SE response My mommy called up my auntie last night.

Table 8

Comparison of Difficulty of Individual Sentences:
SE- and HCE-Speaking Kindergarten Children

Sentence Number	SE Subjects (N=30) % of Accurate Repetitions	Ranking	HCE Subjects (N=24) % of Accurate Repetitions	Ranking
1	96.6	1	75	1
2	80	11	54.2	3
3	96.7	1	54.2	3
4	90	5	29.2	10
5	90	5	25	11
6	80	11	35.4	7
7	95	3	64.6	2
8	83.3	8	54.2	3
9	86.7	7	25	11
10	63.3	15	22.9	13
11	91.7	4	54.2	3
12	80	11	31.3	9
13	83.3	8	20.8	14
14	83.3	8	12.5	15
15	80	11	33.3	8
Means	23.89		10.75	
Standard Deviation	3.60		5.96	

The Hawaiian Creole English Repetition Test (HCERT)

In order to investigate linguistic issues in this bi-dialectical population, it was also necessary to measure childrens' performance in HCE. Thus, a repetition test, similar to the SERT, was constructed, but one which measured a child's ability to repeat HCE sentences.

The same general procedures were followed, that is, natural speech recordings were used to collect a range of sentences, and from this pool items were chosen to represent a variety of syntactic features known from previous research to represent a range of linguistic complexity (Day, 1973a, 1973b; Bickerton, 1975; Peet, 1974).

Some of the features should present little difficulty to speakers of SE, while others have no near SE equivalents. The sentences and features were selected for use with children in the early grades of primary school.

An earlier version was designed in which the number of items was reduced by discarding items on the basis of (1) low correlations with total score and (2) redundancy. This version was pilot-tested in 1973, and was found to present no difficulties to kindergarten children in the HCE speech community. Therefore, in order to have a more meaningful test, additional sentences and features were added to the original 15 sentences and 27 features. The HCERT, in its final version, consists of 22 sentences with 60 features. Each sentence contains at least one grammatical feature characteristic of HCE. Table 9 displays the HCERT sentences. Specifically, the grammatical features are the following:

(1) Objective case pronouns as subjects. Sentences 1, 3, 7, and 20, the objective case pronoun instead of the nominative case as subject.

(2) Past tense affirmative. Sentences 12, wen go fight; 14, wen go ask; and 18, wen call. Use of wen plus the simple (or uninflected) form of the verb.

Table 9

Hawaii Creole English Repetition Test

1. Michael, him neva come schoo' las' week.
2. I not shua whea da teacha.
3. I tink her stay office.
4. If you poun' too much, come sour, an' trow way.
5. Da car smash all up.
6. Da boy got hit by da sista.
7. My auntie, her no give us lickings.
8. My mada stay cleaning da house an' Mary cleaning om too.
9. Mommy, you know whea my clothes?
10. Anybody fall down ova dea, gon really get hurt.
11. When da raio not on, I no can hear 'om.
12. Had one olda guy wen go fight wit' 'om.
13. David no like come wit' us 'cause he watching TV.
14. I wen go as' Ruby if her brada one lia'.
15. Teacha, you can tell me what is dis?
16. Da man come for look my auntie ca', yestaday.
17. When my mommy not home, da sista stay wit' us.
18. My fada wen call up his frien' yestaday.
19. Easy fo' play, aeh, dis game.
20. Us neva go movie 'cause our daddy neva come home.
21. E Robet, why you no eat your lunch?
22. If I no mo' dirt insaid da finga'nail, I safe.

(3) Past tense negative. Sentence 1, neva come and 20, neva go and neva come. Use of neva plus the simple form of the verb.

(4) Tense neutralization. Sentence 16, come. This involves the use of the unmarked tense when past tense is generally expected.

(5) Copular usage

(a) Absence. Sentences 2, I not and whea da teacha; 8, Mary cleaning; 9, whea my clothes; 10, gon really; 11, da raio not on; 13, he watching; 14, brada one lia'; 17, mommy not home; 22, I safe.

(b) Use of stay for SE be. Sentences 3 and 8.

(c) Different placement in indirect question. Sentence 15, you can tell me what is dis. In SE, its equivalent has is in sentence-final position: can you tell me what this is.

(6) Non-past tense negation. Sentences 7, no give; 11, no can; 13, no like; 21, no eat; and 22, no mo' (more). Use of no plus the simple form of the verb.

(7) Interrogatives

(a) Absence of do-support. Sentences 9 and 21.

(b) Absence of subject-verb inversion with auxiliary. Sentence 15.

(8) Passive

(a) Unmarked. Sentence 5, smash.

(b) Marked. Sentence 6, got hit.

(9) Existential. Sentence 12, Had

(10) Indefinite Article. Sentences 12 and 14, one.

(11) Deletion of relative pronoun as subject. Sentence 10.

(12) Deletion of subject. Sentence 4.

(13) Deletion of auxiliary. Sentence 4.

(14) Unmarked conditional. Sentence 10.

(15) Unmarked genitive. Sentence 16, my auntie ca'.

(16) Unmarked habitual tense. Sentence 17, da sista stay wit' us; 10, Anybody fall; and 4, come.

(17) For as complementizer. Sentences 6, come for look; and 19, Easy fo' play.

(18) Subject in sentence-final position. Sentence 22.

(19) Zero locative preposition. Sentence 1, come school.

(20) om as unmarked pronoun. In sentence 8, om refers to the house, in 11, to radio, and in 12 to an unspecified person or persons.

(21) Definite article as a possessive. Sentences 17 and 22.

(22) Adjective in sentence-initial position. Sentence 19.

(23) Tag question. Sentence 19, aeh.

(24) Insaid meaning SE under, sentence 22.

Administration and Scoring Procedures

The procedure is identical to the SERT procedure. The test is administered individually by a HCE-speaking adult. The entire session is recorded on tape. The child is told that the tape recorder is used so that their voices can be recorded, which will enable them to listen to their voices. In order to establish a verbal response, the child may be allowed to manipulate the recorder, say his name or another phrase so he can watch the recording indicator flip back and forth.

The examiner tells the child to listen carefully to what he says, and to say the same thing, being sure to talk loud enough for the recorder to pick up the responses. There are three practice sentences which can be used in explaining the subject's task to him. If a subject is unable to complete a practice sentence, regardless of the language used in responding, the test is not administered.

Each of the 60 features is examined for placement in one of four categories:

(1) exact HCE repetition--the subject repeats the features exactly as said by the examiner.

(2) correct HCE, but not an exact repetition--the subject repeats the feature in a way which is not the same as what the examiner said, but maintains the meaning.

(3) equivalent SE repetition--the subject changes the feature from HCE to SE, but retains the meaning.

(4) bust--the subject's response cannot be scored as (1), (2), or (3) above; this might involve not repeating the feature, an inaudible reply, or a repetition which changes the meaning.

Using these four scoring categories, it is possible to obtain the total number of exact HCE repetitions, the total number of HCE features changed to SE, and the total number of features which were repeated appropriately regardless of code (HCE+SE). Except where noted, the analyses presented in this paper are all based on exact HCE repetitions only.

Reliability

Three-day test-retest reliabilities were calculated with a sample of HCE-speaking kindergarten subjects (N=18) and first grade subjects (N=17). For the former group, r=.91, and for the latter, r=.87.

HCERT Results

HCERT data from the first year of testing at KEEP are presented in Table 10. Within each of the three grade levels tested, an average increase of three to four correct items occurred between Fall and Spring testing. Thus, as with the SERT, children in the five to seven age range show progressive improvement in HCERT performance.

In Table 11, results are presented from HCERT testing in a local public school, which serves the same population as KEEP. In this case, kindergarten, second and fourth grades were tested; again there is an increase in HCE performance

Table 10

Mean HCERT Scores for Three Age Groups:
Fall and Spring Administrations at KEEP

	Kindergarten Class III	1st Grade Class II	2nd Grade Class I
Fall	33.62 (26) (10.50)	38.03 (30) (10.53)	41.48 (23) (7.75)
Spring	36.54 (26) (10.73)	41.23 (30) (9.02)	45.45 (22) (6.69)
Amount of Increase	+2.92	+3.20	+3.97

Table 11

Mean HCERT Scores for Three Age Groups:
Spring Administration in a Public School

Grade	$\bar{X}$	SD
K (N=18)	33.9	9.8
2 (N=18)	41.7	10.4
4 (N=20)	46.8	6.7

across age. However, while KEEP second graders gave a mean of 45.45 exact HCE repetitions, the fourth graders at the public school gave only about two more (46.80). Thus it appears the HCERT's ceiling is reached by approximately second grade. Therefore, the HCERT's utility is less than the SERT which tops out at about fourth grade.

The KEEP kindergarteners and second graders did better on the HCERT than their public school counterparts. This is interesting because the public school children also did less well on the SERT: means of 10.3, 16.4, and 23.2 for kindergarten, second, and fourth respectively. At KEEP the mean SERT for kindergarten and second grade is 13.11 and 18.54 respectively. However, the mean of 23.2 for fourth graders is comparable to levels we have obtained previously, and is near the SERT ceiling performance.

Table 12 presents the correlations for Fall and Spring testing. Kindergarteners and first graders show little variation in relative rank order of performance, despite the change in mean scores reported in Table 10. The second grade results are something of a puzzle. This is the first instance in our use of either the SERT or HCERT that a low correlation was obtained between Fall and Spring testing.

Table 12

Correlations Between Fall and Spring Administrations: Exact HCERT

		Spring		
		Kindergarten	First	Second
	K (N=26)	.65 (26)		
Fall	1 (N=30)		.81 (30)	
	2 (N=22)			.30 (22)

In Table 13 are presented the percent of responses scored for each of the four scoring categories. This format shows the pattern of change that accounts for the increases in HCERT scores reported in Table 10. For kindergarteners, the main source of improvement on their Spring test is a reduction of the number of busts (from 27 percent in fall to 20 percent in spring). For first graders, the pattern of change is more evenly distributed across the available sources.

Table 13

Sources of Fall to Spring Change in HCERT Scores: Percents of Scoring Categories

Grade	Exact HCERT	Other HCERT	SE Transforms	Busts
Kindergarten				
Fall	56	4	13	27
Spring	61	6	13	20
Percent change	+5	+2	0	-7
First				
Fall	63	6	13	18
Spring	69	5	10	16
Percent change	+6	-1	-3	-2
Second				
Fall	69	4	21	6
Spring	76	3	11	10
Percent change	+7	-1	-10	+4

The second grade data are at variance again from the kindergarten and first grade. But, in this instance, the results suggest an explanation for the difference, and for the low correlation between Fall and Spring testing presented in Table 12. Apparently the second graders approached the task in Fall with a

strategy that sharply increased the percent of SE transforms they gave to the Creole items. Perhaps because this group had been tested often with the SERT or because of their developing SE skills, they tended to transform.

Table 14 presents the intercorrelations among the HCERT scoring categories. Again the results reflect the nature of the system, since the scores are not independent. However, there is one interesting point. Kindergarten children (Class III) who do well on the HCERT are also likely to give SE transforms; that is quite the opposite of high SERT scorers who are quite unlikely to give an HCE transform in response to the SERT. Indeed, for kindergarteners, the number of SE transforms on the HCERT correlates positively with exact SERT scores (.62 and .61 in Fall and Spring respectively), and with exact HCERT (.24 and .32 for Fall and Spring respectively). The former are statistically significant, the latter are not. These findings are consistent with another important result reported in Table 14, the relationship of exact SERT and exact HCERT scores.

With one exception, all testings resulted in statistically significant positive correlations; the one exception is the first administration of the HCERT to the second graders, which is probably a testing anomaly.

Kindergarteners who do well on the HCERT and who use SE transforms when they do not repeat the HCE version of the sentence, are merely showing a population characteristic. Children who are good HCE performers, are also good SE performers. For the older children, the exact HCERT and SE transform correlation becomes negative because of the nature of the test and the scoring system; as they grow older, children can correctly repeat many more sentences and they have less "opportunity" to transform. The kindergarteners show the positive correlation because there is still enough ceiling on the test to allow the relationship to emerge.

Table 14

Intercorrelations of HCERT Scoring Categories and Exact SERT Score: Fall and Spring Administrations

	Exact HCERT			Other HCERT			SE Transforms			Busts			Exact SERT		
Fall	2 (N=23)	1 (N=30)	K (N=26)	2	1	K	2	1	K	2	1	K	2	1	K
Exact HCERT															
Other HCERT	-.01	-.32	.29												
SE Transforms	-.88	-.34	.24	-.26	-.11	.33									
Busts	-.27	-.80	-.92	.27	.22	-.48	-.20	-.27	-.59						
Exact SERT	.07	.53	.47	-.13	-.57	.15	.17	.26	.62	-.52	-.63	-.62			
Spring															
Exact HCERT															
Other HCERT	-.53	-.46	.15												
SE Transforms	-.62	-.49	.32	-.01	.05	.19									
Busts	-.64	-.82	-.91	.29	.29	-.28	.01	-.07	-.62						
Exact SERT	.69	.58	.63	-.63	-.45	.15	-.10	.13	.61	-.61	-.69	-.74			

The Relationship of SE and HCE

It is not clear in the national literature whether nonstandard dialect proficiency is related to standard dialect proficiency. It is implied in some sources that the relationship is inverse: a child/person is either proficient in one or the other. (A notable exception is Valentine, 1971.) Feldman, Wertsch, Stone, and Strizich (1975) described this as the tradeoff hypothesis.

Feldman and her associates (1975) also found a significant correlation between repetition measures of SE and HCE among HCE-speaking high school students in the Ka'u District of the Big Island. In their effort to develop a repetition test for Afro-American youth, Politzer and his associates found a significant correlation (r=.54) between proficiency on the Standard Black English and the Nonstandard Black English Repetition tests (Politzer, Hoover, and Brown, 1974). While it is possible, as Politzer et al. suggest, that the relationship is due to abilities other than dialectical proficiency, for example, test-taking ability and memory, we believe the Feldman et al. argument is more plausible: Linguistic fluency for children living in a bidialectal situation is very likely to be correlated across the dialects they use. In the case of the KEEP children, their exposure to SE is constant, via the media and in the larger community; children with generally good linguistic skills simply learn both dialects better than children with less skill learn either one. It is a matter of individual, not cultural, difference.

Correlates of SERT and HCERT

Tables 15 and 16 present kindergarten correlations among SERT, HCERT, IQ, and school readiness, and achievement measures. The SERT correlates substantially with all measures; the HCERT is less well related, in several instances below conventional levels of statistical significance.

Table 15

Kindergarten Correlates of Exact HCERT and SERT Scores,

Fall and Spring Administrations

	Exact HCERT	Exact SERT	HCE Transforms on SERT	SE Transforms on HCERT
Fall WPPSI (N=26)				
Total I.Q.	.36	.82**	.15	.61**
Verbal I.Q.	.40*	.73**	.14	.43*
Performance I.Q.	.27	.81**	.12	.72**
Spring WPPSI (N=26)				
Total I.Q.	.59**	.85**	-.27	.56**
Verbal I.Q.	.58**	.81**	-.26	.43*
Performance I.Q.	.49**	.73**	-.23	.59**
Metro Readiness (N=26)				
Fall Total Score	.19	.69**	-.26	.43*
Spring Total Score	.46*	.69**	-.21	.43*

*$p < .05$

**$p < .01$

Table 16

First and Second Grade Correlates of Exact HCERT and SERT Scores:

Spring Administrations

	Spring Exact HCERT		Spring Exact SERT	
	First (N=28)	Second (N=22)	First (N=28)	Second (N=22)
Spring - WISC				
Total I.Q.	.40*	.23	.63**	.54**
Verbal I.Q.	.49**	.29	.74**	.60**
Performance I.Q.	.18	.09	.31	.30
Spring - Gates Reading				
Total Raw Scores	.16	.25	.40*	.45*
Total Standard Scores	.28	.33	.58**	.61**
Vocabulary Raw Scores	.26	.37	.52**	.63**
Vocabulary Standard Scores	.02	.35	.19	.48*
Composite Standard Scores	.10	.14	.30	.27
SERT				
Fall (N=23)	.59**	.60**		
Spring (N=22)	.58**	.69**		

*$p < .05$

**$p < .01$

For interest we have also included for the kindergarten the correlations between SERT and HCERT transformation scores. For the HCERT, this is the number of instances of transforming an HCE feature to an equivalent SE feature; the reverse is the case for transforms on the SERT. Children who give a relatively larger number of transforms on the HCERT (tend to give SE responses) also obtain relatively higher test scores, both Fall and Spring. A more ambiguous pattern appears for children who transform SERT items. In Fall, correlations are positive and low; in Spring, they are negative and slightly larger. In neither case are they statistically reliable.

The interpretation of the role of the SERT and HCERT in academic achievement is more fully explored in Technical Report #54, a recently completed multivariate analysis. In general, it appears that there is a general linguistic fluency factor that accounts for performance in both SE and HCE; this variable is better defined by SERT scores and relates in a reliable but relatively minor way to reading achievement.

This conclusion, that general linguistic competence, rather than a code-specific fluency, is the variable of concern in academic learning, is supported by the work of Au and Speidel (see Technical Report #53). Children were read two forms of the same story, one in SE and one in HCE. There were no differences in comprehension, as measured by their ability to answer questions about the stories.

Conclusion

The effort to build measures of SE and HCE is now virtually completed. It appears at this point that the SERT will prove more useful in the long run for two reasons. First, it relates more reliably to important academic measures, and, second, it has a higher ceiling than the HCERT. The latter is not surprising since HCE is probably a first dialect for most KEEP children and thus they will

reach optimal performance earlier in HCE (and on the HCERT). But most importantly we have been able to show that the assumed negative relationship between the two dialects is not supported by our research.

There are many uses to which the SERT and HCERT can be put: developmental studies of HCE speakers as they move through elementary school; comparison studies using samples from other American communities; further analysis of the substitution or transformation phenomenon; and, finally, for education research. The latter is of considerable practical significance since, as noted, in many communities, it is widely believed that nonstandard varieties of English are implicated in the academic difficulties of minority culture youth. While there have been some noteworthy efforts to document this assumption (c.f. Politzer, Hoover, and Brown, op. cit.), they are mostly of recent origin, and are general, often nonempirical in nature, and limited in scope.

The same state of affairs exists in Hawaii. We constructed the SERT to study the relationship between school achievement and SE performance among HCE-speaking children, and to conduct developmental investigations as well. The results indicate that language may be implicated in the academic difficulties of HCE-speakers. However, we are convinced that the solution of those school problems depends on precise rather than general descriptions of language/school performance relationships. It seems unlikely that the relationships are simple or even similar at all levels and across all instructional areas. The SERT provides one means to specify where the difficulties begin and what areas of classroom learning are affected. A multivariate analysis of this question is presented in Gallimore and Tharp (see Technical Report #54).

II. The Acquisition and Use of Specific SE Features: Normative and Experimental Studies

In addition to the SERT investigations, a second line of linguistic research was conducted during the first five KEEP years. These studies focused on acquisition of specific standard English (SE) features by Hawaiian-Creole-speaking children. The first series of investigations were aimed at determining the normative pattern of acquisition; the second series explored the effects of various instructional approaches on SE feature acquisition.

Frequency of SE Features in Natural Speech

The first study examined the range of SE used in natural settings by Creole-speaking children (see Technical Report #29). Six mothers were provided tape recorders and paid to obtain speech samples of their kindergarten children. While the quality and quantity of material taped varied substantially, an adequate speech sample was obtained for each child. Recordings were made in bedrooms, living rooms, bathrooms, riding in cars, and at the dining table. Recordings of the six children were obtained by KEEP researchers in two additional settings: a formal interview and at school. The speech of each child was analyzed for negative formation, question formation, present and past tense, occurrences of the copula, plural formation, and definite and indefinite articles. These features were chosen for analysis because it is widely agreed that they distinguish SE and HCE speakers. Indeed, these features comprise the stereotypic examples used to describe "pidgin" or HCE.

Two important conclusions emerged from the qualitative analysis of the tapes. First, none of the six children could be described as "language deficient." They all exhibited, at one time or another, substantial language and communication competence, despite coming from backgrounds which are typically labeled deficient or disadvantaged. Second, the range and variability of specific standard English

features was impressive; all of the children used many different SE features.

Quantitative analyses of these data proved impracticable. It was possible to judge when a specific SE feature occurred, but extremely difficult to get reliable judgment about when a feature ought to have occurred, but did not. The difficulties of obtaining and coding free field speech persuaded us to try another approach temporarily in order to better assess frequencies of specific features.

The free field speech study also narrowed the list of features suitable for more detailed study to plural and past tense formation. Both of these features (or the opportunity to use them) occur with some frequency in child speech. They are relatively easy to identify and to hear when using tape recordings, and there is broad agreement that these two features distinguish SE and HCE.

Plural and Past Tense Formation: The Berko-Gleason Replication

While the first study showed disadvantaged children from welfare families use SE and communicate effectively in many settings, it left unanswered whether they use specific SE features as often as SE speakers. For this reason, Berko-Gleason's classic study was partially replicated since her results provided a normative sample of specific SE feature use by SE speakers (1958). Using ambiguous objects with nonsense names ("wug and wugs"), she demonstrated that both kindergarten and first grade SE speakers had internalized several morphological rules, including past tense and plural formation.

Twenty-seven children (KEEP Class I) were tested, using the Berko-Gleason procedure, for ability to use the SE rule for SE past tense and plural formation. Eight and ten items were used to test past tense and plural formation respectively; of these, one and two words respectively were real, and the rest nonsense.

The results were startling. For the test of past tense formation, only four

correct responses were obtained; 27 children were administered eight items, and 98 percent of the responses were wrong (212 errors out of 216 responses). For the plural formation test, there were only 3 correct out of 270 responses, or 99 percent error.

"Further, not only did the children not display any control over or knowledge of the appropriate SE rules, they also did not use any Pidgin forms! We know that the past tense in Pidgin, for example, is formed by placing the past tense morpheme, wen, before the simple form of the verb. Thus, the past tense Pidgin equivalent of the SE sentence, I hit the man, is I wen hit da man. However, not one of the KEEP kindergarten children ever produced a response such as Yesterday he wen rick." (Technical Report #30: p. 30-4).

A variety of interpretations of these results are possible and are discussed by Day (Technical Report #29 and #30). However, observations of the children in other settings suggested that the most plausible explanation of these high error rates was a faulty testing procedure and/or materials. Of the children in the study, several had been observed to use plural and past tense forms in the classroom, at lunch, and on the playground. Further, a number of these children scored very well on the SERT, giving few or no HCE transformations.

This study added to rather than reduced the researchable issues. However, it serves as an impressive reminder of the competence-performance problem in measurement of language and cognitive variables.

The KEEP Plurality Formation Test

For several reasons it was decided to invest resources in the development of a plurality test. First, it was clear that the Berko-Gleason procedure could not be transplanted to Hawaii without some changes. If we were to make changes, it was just as economical to make all that had occurred to the researchers in the course of the Gleason replication. Second, we decided at this point to pursue

experimental training studies of SE feature acquisition, an enterprise requiring a reliable dependent measure.

The first step was selection of "real" SE items to be used in comparison with the nonsense items used by Gleason. The KEEP plurality test was composed of paired (singular and plural) 5" x 8" cards with drawings of 12 real objects and eight animal-like figures from Gleason's test. The real words were chosen to represent the variety of singular form ending sounds that reflect the phonological aspects of plural formation. It was assumed that the plural morpheme is less likely to occur where complex consonant clusters arise, or where the syllabic (-iz) rather than the nonsyllabic (-s or -z) is required (Day and Odo, working paper).

The words chosen were:

requiring -s or -z (non-Sibilants)			requiring -iz (Sibilants)	
Real SE		Nonsense	Real SE	Nonsense
cup	boy	wug	glass	tass
book	chief	lun	nose	niz
pen	car	tup	church	gutch
tab		heaf		

With these items, it was expected that we would be able to test children's knowledge of the two morpho-phonological rules involved in SE plural formation: (1) add -s or -z to words ending in any sound (2) except c,j,s,z, to which -iz is added.

The second major change from the Gleason format was procedural. For example, the Gleason procedure required the children to complete a sentence ("This is a wug--pointing to a picture--and there is another one. There are two....."), in which level intonation on the word two was used to signal the child to finish the sentence. Since KEEP children did not seem to understand what was required (some merely repeated the tester's words and others finished with "of them" rather than the plural noun), the procedure was simplified. Several other procedural changes

are described by Day and Odo (working paper), which in combination appear to have solved the difficulties of the Berko-Gleason replication.

At least the frequencies of plural formation obtained with the KEEP plurality test suggested the problems were reduced. Of a sample of HCE first graders (KEEP Class I), 54 and 34 percent of the children, on the average, correctly formed plurals for real SE and nonsense items respectively. By way of comparison, Berko-Gleason reported a mean 66 percent of Boston first graders formed nonsense plurals (for the seven Gleason nonsense items included in the KEEP test). The number and percentage of KEEP children and the percent of the Gleason sample correctly forming nonsense plurals are presented in Table 17.

Table 17

Comparison of Nonsense Word Plural Formation by KEEP and Boston First Graders

	KEEP		Boston*
Word	No. Children Correct	Percent	Percent
wug	17	61	97
lun	11	39	92
cra	15	54	86
heaf	5	18	80
gutch	5	18	38
tass	3	11	39
niz	6	21	33

*Boston data taken from Gleason (1958), N=56

Both Gleason's Boston sample and the KEEP sample had more difficulty with those words ending in sibilants, the plural form of which requires the suffix -iz (rule two of SE plural formation). For example, only 18 and 38 percent of the HCE and Boston children were able to form the plural gutch. For the word wug (non-sibilant) the comparable percentages were 61 (HCE) and 97 (Boston). The ranges overall were 61 to 11, and 97 to 33 for HCE and Boston children respectively.

Analysis of correct plural responses for the real English words, suggests a similar division between non-sibilant and sibilant-final words. The lowest percentage of KEEP children able to form a plural for a non-sibilant final word was 52--pen. The highest percentage for the sibilant final words was 39--chief. The range for the 12 words was from 70 percent (boy) to six percent (church).

This rate of correct plural formation by the KEEP children was altogether more face-valid than the trace levels obtained in the Berko-Gleason replication. From observation of these children in many settings over several years, the average number of children who showed control of the plurality rule on a majority of items seemed about right. Also, since there was a substantial range in performance, and room for improvement (scores above 70 and 61 percent for real and nonsense items), the plurality test presents acceptable credentials as a dependent measure.

In addition, performance on the plurality test predicts plural formation in a free speech situation. Four of the highest scoring first graders were recorded while they played together in a "grocery store" at the KEEP demonstration school. Similar recordings were made of the four lowest plurality test scorers. The two groups each played 20 minutes: They were instructed to "play store," by picking out items from a variety of common supermarket items, take them to the cashier, and pay with real money which they were given. To enrich the plurality environment, the cashier would not sell them anything until the objects were named.

Table 18

Plural Formation in Free Field Speech Situation by High and Low Plurality Test Scorers

Groups	N	Number of Possible Plurals	Number of Observed Plurals	%
Low Plural Scorers	4	49	35	71.4
High Plural Scorers	4	52	51	98.1

All objects purchased were multiples, for example, a bag of apples. Fortunately, given the same amount of time and an identical play structure the two groups engaged in speech behavior that allowed for virtually identical opportunities to form plurals. That is, we were able to count 49 and 52 times, for the two groups, in which a plural would have been appropriately used. The number of plurals actually observed varied substantially between the two groups--71 and 98 percent correct plural formation for the low and high groups respectively. Within the high group, the individual percents were 92, 100, 100, and 100. There was greater indivicual variability in the low group: 0, 33, 57, and 83. These data are important for two reasons. First, they tend to validate the plurality test, and second, they demonstrate that even children with limited control of the plurality rules engage in ample speech behavior. Though they averaged only 71 percent correct plurals, the low group was equal in number of opportunities.

Plurality Formation Training Experiment

The debate over whether nonstandard dialect-speaking children need to be taught SE to succeed in school is no more controversial than how to do the SE instruction. For our purposes here, it is necessary only to review the initial KEEP language training strategy in order to explain the reasoning behind the

plurality formation training experiment.

In KEEP planning, special attention was devoted to the issues of SE oral language instruction. At that time, there was (and still is) considerable discussion and debate in Hawaii over the role, if any, of SE language instruction. Some advocated special classes and patterned drill; others argued for a more natural classroom integrated approach. At KEEP we decided more information on the relationship of HCE and SE to school learning was necessary before a judgment about oral language instruction could be made. We anticipated that linguistic studies would provide important guidance. In the meantime we opted for a policy of (1) permitting children to use HCE as they wished, and (2) assuming the entire school day and all teacher-pupil interactions represented opportunities for oral language practice and instruction.

Happily, our linguistic research did sharpen the oral language training issue. First, the SERT studies show that general SE performance gradually increases from age five to nine. Second, the natural environment recording study indicated the children use a wide range of SE. Third, the plurality studies showed that HCE children are capable of a good measure of correct usage of a specific SE feature--plural formation.

We can add one additional bit of data. Table 19 presents the average number of KEEP kindergarten and first grade children who can correctly form plurals on the plurality test. For both nonsense and real SE words, about 20 percent more first graders are able, on the average, to form plurals. A similar kindergarten to first increase was reported by Gleason.

Thus, for plural formation, and in general, there is an increase among the KEEP children in their capacity to use standard English, and this occurs without any formalized instructional effort. Therefore, to be of value, an oral language training program must show either larger, or more rapid gains. This is, of course,

aside from the question of whether higher SE performance levels have any effect on other aspects of school learning.

Table 19

Mean Percent of First Grade and Kindergarten Children Correctly Forming Plurals

	KEEP		BOSTON*	
	Kindg.	1st Grade**	Kindg.	1st Grade
Nonsense Words	15	34	50	66
Real SE Words	36	54	--	--

*Boston data from Gleason (1958).
**These data are from the Plurality Test Study reported above.

Our linguistic research thus led to a point where it was logical to ask if it is possible to train HCE children to use a specific SE feature. The choice of plural formation as the targeted feature was obvious since we had available a dependent measure and a body of data. What form the training should take was another question. We decided to assign the task to an experienced KEEP teacher. Her task was to devise and instruct a teaching unit designed to increase the children's control of the SE plural formation rules. She freely consulted other teachers and curriculum guides. The final product was a unit divided into four parts. Parts one and two focused on the two sounds of words ending in non-sibilants (s and z); part three taught the rule for plural formation of words ending in sibilants; part four was addressed to mixture of the sounds. Each part (1-4) was taught until the children mastered the rules -- the criterion was teacher assessment of classroom performance. Exceptions to the rules were not introduced nor taught. Five twenty-minute lessons were spent on the s sound, four on z, three

on iz, and three on the mixture of the three sounds, with an emphasis on x iz. This took three weeks.

At the beginning of each part, concrete objects were used to demonstrate the difference between singular and plural words. The teacher presented one item, such as a block, and asked a child to label or name it. The children were asked to repeat the response if it was correct. If not, the teacher would correctly name the item and then ask the class to repeat. The process was repeated while the teacher presented several blocks; the rule for plural formation was stated. Then, using either one or several objects, the teacher asked individual children to label or name the items. Once a correct response was given, the children repeated the response, and the teacher again stated the rule. In addition to concrete objects, colored slides of objects were used, with a similar teaching format.

To enhance motivation, the children were usually divided into teams that took turns providing names or labels. Points were awarded and recognition given for accumulated points, (e.g. a "good work award"). Throughout, children were praised for correct responses and appropriate behavior, a standard feature of KEEP teaching practice. They were never reprimanded for incorrect responses.

Finally, worksheets were used for instructional follow-up. Pictures of singular and plural objects on the sheets were to be circled by the children as the teacher called out either the plural or singular word.

Twenty-six kindergarten children (Class II) who had been pretested on the plurality test were randomly assigned to either an experimental or control group. The 13 experimental group children completed the three-week plural training unit while the 13 control children continued their regular activities.

Following the language unit, both experimental and control groups were retested on the plurality test (Posttest 1). These results are presented in Table 20.

Table 20

Pre- and Posttest Plurality Scores for Kindergarteners in Experimental and Control Groups

		Pretest		Posttest$_1$		Posttest$_2$	
		Mean	%	Mean	%	Mean	%
Experimental Grp (N=13)	Real Words	4.31 (3.05)	36	6.54 (3.17)	55	8.30 (2.81)	64
	Nonsense	1.31 (1.38)	16	2.77 (1.62)	35	4.93 (1.62)	38
Control Grp (N=13)	Real Words	4.38 (3.31)	37	5.38 (3.91)	49	5.85 (4.33)	45
	Nonsense	1.08 (1.59)	14	2.23 (2.04)	28	3.23 (2.81)	25

Unfortunately, the results are not clear. Both the experimental and control groups showed increases in number of correctly formed plurals. These changes are not statistically significant, nor are there any reliable differences between the group means on either testing.

The difficulty is the unknown effect of repeated testing. Simply being given the test twice in approximately four to six weeks could easily account for the changes; the items are more familiar, and format and consequences of the experience less threatening, etc. Since the pre- and posttest kindergarten difference is about the same as the kindergarten versus first grade difference (see Table 19), the practice effect alternative is entirely plausible.

To further confuse the issue, we can present the results of a second posttest. Astounded by the students' performance on the first posttest, the teacher who had constructed and carried out the training unit tested the children again (Posttest 2). These results are also presented in Table 20.

For the real SE words, the change for the experimental group from the pretest to Posttest 2 is statistically significantly greater than the control

(t=2.041 (11), $p < .05$, one tailed). For the nonsense words, the same comparison approaches conventional levels of significance (t=1.698 (11), $p < .10$, one tailed). The relative amount of change in the two groups from Posttest 1 to Posttest 2 is also significant (.05), for both real and nonsense words (t=2.077 and 1.920 respectively).

Again there are plausible alternative explanations of the changes other than attributing them to the training experiences of the experimental group. (1) The teacher may have unwittingly biased her results since she knew which children were in the experimental and control groups; (2) the practice effect of taking the test a third time; and (3) the teacher's presence prompted the experimental children to generalize to Posttest 2 what they had learned in the training sessions.

Regrettably, we cannot partial out what was happening in the training study and the posttests. What is clear, however, is the impressive range of performance gains in a few short weeks. Overall, it suggests the children may have greater plural formation competence than their performance usually indicates. This is certainly consistent with the results of the free field speech study which suggested even low scorers on the plural test correctly form SE plurals on about 70 percent of the appropriate occasions.

However, a fine grained analysis of specific items suggests the range of plural formation rule competence is limited to phonologically simple words which are monosyllabic and do not end with a sibilant. This is true for both the real and nonsense words, and before and after training. If there were any training effects in addition to the other factors, they would be restricted to the phonologically simple words which did in fact show change. On the posttests of nonsense words ending in sibilants, which was the most severe test of rule competence, there were actually fewer children who correctly formed plurals (from four on the pretest to two on the posttest).

Overall, the studies of plurality suggest correct usage varies as a function of articulatory complexity. Easily articulated words are more often correctly formed as plurals; more difficult words--those with marked final consonants--are more likely not formed as plurals, or formed incorrectly. The natural hierarchy of simple to complex final consonants is on a continuum from easiest to hardest (nonconsonant, nasal, voiceless stop, voiced stopped, and fricative). The children's performance can be predicted from this continuum.

Another Approach to Oral Language Training

Whatever else was learned from the plurality training experiment, it was clear that the instructional approach used offered little hope. Of course, we no doubt could have revised and/or extended the training and eventually obtained an increase in correct plural usage. But if every SE feature took three or more weeks to learn, the cost would be enormous. In addition, there are many who argue that the training approach used was unnatural, and language fluency rules learned in a formal setting rarely generalize.

After considerable exploration of various training alternatives, including the use of observational learning principles (c.f. Zimmerman and Rosenthal, 1974), we elected to do a hypothesis-generating study. That is, we would explore oral language learning through direct observation and intensive case studies of KEEP children as they went about their daily activities.

The first step was to observe those instances in the school day in which children engage in extended conversations with peers and/or teachers. The result was informative; during the time this survey was conducted, few opportunities occurred, and those that did were brief.

Next, we asked a number of teachers to conduct small and large group discussions so that we might study their techniques and the children's language behavior. These sessions were videotaped. The range of discussion-leading

styles and skills was great; in general, the teachers talked most of the time and the children gave one or two word responses. To the teachers, this circumstance was the inevitable result of the lack of a specific oral language curriculum and the lack of programmatic emphasis placed on oral language development and activity.

In addition, the observations confirmed earlier work which suggested that most of the children at KEEP are quite verbal when given an opportunity. They may use HCE but they communicate effectively. There are about ten percent who seem to be genuinely nonverbal; even in peer situations they say little, and they are effectively handicapped in most instructional settings.

Concurrent with these developments, the results of the SERT and tests of school achievement (reading and math) began to become available. These data suggested that while SE performance is linked to learning to read, its contribution is secondary and limited. In addition, Feldman et al. (1975) found among HCE-speaking students on the Big Island that it was general linguistic fluency and not SE versus HCE that influenced school learning.

We decided to continue the exploratory study by concentrating on those children who by direct observation and test scores appeared to have limited oral language skills. Changes in oral language performance would be relatively easier to detect, and there was a great practical need to assist these children. Presumably what we learned by working with children in difficulty would be generalizable to other more language-capable children.

Eliciting Oral Responses from Nonverbal Children[2]

A group, composed of five children (two girls and three boys), who scored low on both the HCERT and SERT and who were considered nonverbal by

[2]This section is taken from a report prepared by Ms. Claire Asam, who conducted the sessions and contributed to the analysis.

KEEP teachers was selected. Four of the children were first graders and one was a second grader (ages 7-8). All scored low on standardized IQ and achievement tests, and were in the lowest reading group in the school. All were of Polynesian ancestry.

The teacher met with these children every day between 11:00 and 11:30 AM for a period of two weeks. The sessions were approximately 10 minutes in length and were held in a research building adjacent to the regular classroom building. Each session was videotaped.

The teacher used various methods to begin the sessions. The first method was to give individuals special days to talk. Each child was assigned one day during the week that was his day to come with something to share with the group. Although it was unclear whether or not the children prepared in advance for their day, all of the children willingly participated on their assigned days.

The second method involved teacher narratives. The teacher verbally shared something with the group, hoping to elicit verbal responses, but made no request for responses.

The final technique used to stimulate conversation was direct questioning, by the teacher, of specific individuals.

From the first few sessions these "nonverbal" children were very verbal, the contrast with their usual verbal rates was impressive -- a reaction shared by many KEEP staffers. The following are possible reasons for their behavior in the sessions:

1. The children were in a loosely structured environment, dissimilar to their usual classroom situation, with no teacher demands.
2. The teacher created a situation in which the children were encouraged, and given confidence in their speech.
3. The children were with peers of similar verbal ability.

4. The children had an opportunity to express themselves in a relaxed, informal, nonthreatening environment among peers and with a teacher who showed an interest in whatever was said.
5. The children looked forward to this special time and would often ask the teacher if they were going to talk together on the "other side." The children associated talking or a time to talk with the room they had their sessions in.

Apparently, no one method was more effective than another in evoking conversation from the children.

Preliminary Analysis of Language Group Sessions

To date we have completed only a preliminary analysis of the tapes obtained from the small group language sessions with the supposedly nonverbal children. Borrowing from Kernan (1974), ten tapes were coded for narrative elements.

"Labov and Waletzky (1967) define a narrative as a method of recapitulating past experience by matching a verbal sequence of two or more clauses to the sequence of events that (it is inferred) actually occurred. A narrative, then, is only one means of verbally recapitulating past experience.....Labov (1972)..... posits six elements, or sections, in the overall structure of well-formed, extended narratives" (Kernan, 1974: 3-4).

We found three of these elements in sufficient detail to code. They are:[3]

1. Abstract: clauses at the beginning of the narrative that summarize the entire story or result of the story. A narrative may also begin with an introducer which is a relatively stylized way of indicating that what follows is a narrative and, among other things, is not subject to the rules of sequencing that apply to dialogue or conversation, for example, I remember one time when I was six years old (Kernan, 1974: 5-6).

[3] The narrative analysis and the coding procedure were suggested by Keith Kernan; we thank him for his many valuable suggestions.

2. Orientation: clauses that provide some information as to time, place, persons, and their activity or situation; orientation clauses may also provide background information such as knowledge that characters in the story may or may not have, mood of characters, or other information that is necessary to understanding the narrative.

3. Evaluation: clauses which attempt to make narratives appreciated and considered by the audience to have been worth the telling.

There are additional narrative elements described by Kernan. However, in the KEEP tapes they occurred only as traces. The tapes coded were recorded over ten consecutive school days and were the final ten sessions of the small group discussions. The preceding tapes could be analyzed, but due to day-to-day variations and equipment failures during our initial explorations, the last ten days of taping were more suitable for analysis.

We considered several forms of analysis. The advantage of the Kernan narrative coding procedure was the availability of his data on same aged Afro-American children.

The total number of clauses coded in the ten tapes was 569. The mean number of clauses per narrative was 13.23, and the total number of narratives over the ten days was 43. Our mean of 13.23 clauses per narrative for the KEEP 7-8 year olds is within the range obtained by Kernan for his three age groups: 16.00 (ages 7-8), 11.00 (ages 10-11), and 18.00 (ages 13-14).

As our use of a restricted narrative element code implied (we used three while Kernan used six), the KEEP children displayed a limited range of narrative elements. In the 43 narratives, we observed 38 abstractors/introducers, 40 orientation clauses, and only seven evaluation clauses. The bulk of the remaining clauses related the narrative events themselves.

Finally, Kernan analyzed the distribution of narrative techniques employed by his sample. A narrative technique is defined "in terms of the semantic interrelatedness that exists between certain of the independent clauses of the narrative" (Kernan, 1974: p. 12). A narrative technique may occur anywhere in the overall structure of a narrative, that is, the various elements of narrative techniques include exact repetition of clauses, the paraphrase of a preceding clause, restatement of a semantic detail with added detail, the specifics of a preceding abstract clause, an abstract of preceding specifics, and the use of certain lexical items.

Kernan found "children of different ages utilize these techniques to elaborate and expand different sections of the narratives" (p. 18). For his seven to eight age group, 57 percent of the coded techniques occur as narrative clauses; for the 10-11 and 13-14 year olds, the percents were 13 and nine respectively. For the seven-eight year old KEEP children, 58 percent of the narrative techniques occur as narrative clauses. Thus younger children--Hawaiian and Afro-American--appear to be more concerned that the narrative events be understood; thus their use of techniques is largely confined to elaborating and explaining narrative events themselves. The older children "seem to be more interested in elaborating the background information necessary to a proper interpretation and understanding of the narrative...." (p. 18). For example, for Kernan's 13-14 year olds, 46 and 45 percent of the techniques observed occurred as orientation and evaluation clauses respectively; only nine percent occurred as narrative clauses.

In sum, the KEEP nonverbal children displayed in their narratives a distribution of elements and techniques that approximated the rates obtained by Kernan for a similar aged group of Afro-American children. Given the enormous differences in the settings in which the studies were conducted, the parallel results are even more remarkable. The KEEP children were recorded in their

regular school, and were "interviewed" by a teacher. Kernan's data were obtained as part of a community based project; the narratives were obtained by black female interviewers whom the children knew well.

For our purposes here, we can conclude that the open-ended small group discussion format holds substantial promise, and should be further exploited. We learned that given the right circumstances the nonverbal KEEP children can use language effectively; that they show in their narrative techniques a preference that is probably appropriate to their age; and the length of their narratives is likely average for their age.

In addition to the narrative analysis, informal review of the tapes suggests the children rely heavily on HCE rather than SE to recount their stories. For some of them, three years of school experience would appear to have had little impact on their use of SE in a conversational/narrative setting. It seems they understand SE perfectly well, but they do not use it. Whether it is because they cannot or choose not to remains unclear. On the surface it appears they cannot, and that the limited opportunities for classroom discussion have done little to assist them to be more fluent in SE.

Finally, the peer interaction in the small group discussion was extremely important. After several sessions, a phenomenon occurred which the researchers (Asam and Day) described as GIN (group involved narrative). A GIN included in the story one or more of the other children in the group; often the stories were fantasy ("we went to the moon, and got ice cream"). The inclusion of group members in a story elicited rapt attention and evident involvement. It was during GINs that some of the most nonverbal of these children were observed to use complex, elaborate language.

Discussion

The studies with the supposedly nonverbal children point sharply to a need

to distinguish competence from performance. These children were selected because test scores and teacher observations indicated they were nonverbal. What we learned is something about the conditions in which they are willing to talk. Obviously what is currently provided in the classroom is not sufficient.

Final Discussion and Conclusions

There are several major conclusions to be drawn from the KEEP linguistic research. We have come a long way since 1971 in our effort to understand the nature of the children's linguistic behavior.

1. There is a steady development of standard English performance levels among the Hawaiian Creole-speaking children. This occurs from ages five to nine without special programs, at rural, suburban, and urban schools.

2. At age nine, Hawaiian-Creole speakers speak standard English almost as well as somewhat younger children for whom standard English was a first language.

3. Hawaiian-Creole speakers understand standard English almost as well as same aged standard English-speaking children. Creole speakers' comprehension of standard English is excellent as early as age five.

4. Young Creole speakers have difficulty with the same features for standard English as SE speakers. A study now in progress suggests that these features also present difficulty to Pima Indians, Mexican immigrants, Koreans, Chinese, Japanese, and Filipinos.

5. Hawaiian Creole speakers show improvement from ages five to seven in Creole performance, just as they do in standard English.

6. Children who are skillful in standard English are also skillful in Creole Those not skillful in standard English are also not skillful in Creole.

7. Skill in standard English and in Hawaiian Creole is related to reading achievement. Standard English appears to be slightly more important to learning to read than Creole, but both are less important than general language development.

8. Training in standard English is less likely to be important than increasing the number of oral language opportunities and activities.

9. Improvement in standard English skill by Creole speakers follows a hierarchy of difficulty that is common to standard English speakers.

10. Creole-speaking children very often perform below their ability in oral language skills.

The programming implications of the linguistic research at KEEP have been sharply narrowed. At this point, we believe the next lines of investigation should be on ways to increase the oral language opportunities and activities. In addition to a curriculum materials issue, an important part of this research will be on teacher skill. It is likely that a major effort will be needed to define and train teacher skills that foster oral language growth.

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